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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,076	09/13/2002	Isamu Yoshida	JCLA10020	2613

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IRVINE, CA 92618

EXAMINER

BOEHLER, ANNE MARIE M

ART UNIT PAPER NUMBER

3611

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,076

Applicant(s)

YOSHIDA ET AL.

Examiner

Anne Marie M Boehler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-7, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato.

Kato shows a ball screw 1 and nut 5 having an internal thread groove. The nut is press fit directly into a support 4. The central portion of the nut is in direct contact with the support and ends of the nut are rounded off so the ends have non-contacting surfaces. Kato shows, in Figure 3 an embodiment of the nut having a notched portion 8 for facilitating assembly. Col. 4, lines 28-36 indicate that the notched or recessed end may, alternatively be tapered to have a conical end. Therefore, each end of the nut has a non-contact surface, one formed at the rounded outer end and the other formed by tapering the inner end.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato.

Kato describes tapering one end of the nut over a length corresponding to the notch length (which covers more than one lead of the rolling way). Also, the notch is shown extending over a length that exceeds one lead of the rolling way. However, Kato is silent regarding tapering both ends of the nut over more than one lead. However, it would have been an obvious duplication of parts and would have been obvious to one of ordinary skill in the art to taper the second end in order to further alleviate deformation stress and friction during press fitting of the nut in the support.

5. Applicant's arguments filed May 13, 2004 have been fully considered but they are not persuasive.

Applicant argues that Kato fails to teach non-fitting surfaces on opposite ends of the nut. The examiner disagrees. Every embodiment of Kato shows rounded ends on the nut member. Even the prior art drawing, Figure 4, of Kato clearly shows slightly tapered and rounded ends of the nut 5 that can accomplish alleviation of stress during press fitting, as broadly claimed. In the preferred embodiments of Kato, the inner end of the nut is additionally notched or tapered (as described in column 4, lines 28-36) and the benefits of tapering at least one end are described in detail. Applicant disputes that there is a teaching to taper both ends of the nut, but does not address the showing in the drawings of rounded or tapered axial ends of the nut, which the examiner maintains show applicant's claimed invention, as broadly recited.

Regarding claims 4 and 8, as indicated in paragraph 4 of the previous Office Action, and herein, Kato is silent regarding tapering both ends of the nut through one lead of the rolling way. The examiner maintains that Kato does teach that it is

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preferable to notch or taper at least one end through more than one lead (shown in Figure 3). This teaching is found in the drawings, particularly Figure 3, which shows a notch 8 that extends over more than one lead of the nut rolling way.

The examiner also disagrees that Kato teaches away from tapering both ends because it strives to provide a tight fit over an extended portion of the nut. Figure 4 of Kato points to areas A, B, and C. C is the inner end portion that Kato proposes notching or tapering in order to achieve a better fit at central portions A and B. Portion A is remote from portion C, but it is not at the distal end of nut from end C. Rather, A appears to indicate an extended central portion of the nut. Kato teaches that the tightness of the fit along the nut reduces toward the outer end of the nut, so that tapering the inner end will extend the tightly fitting portion but not necessarily all the way to the outer end. Tapering the outer end, which does significantly reduce the overall tightness of fit because of the relatively loose fit that is typical of that location. Such tapering would then be obvious in order to retain symmetry, reduce unnecessary stresses while the nut is press fit, and reduce friction during assembly. Therefore, the rejection of claims 4 and 8 is being maintained.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne Marie M Boehler whose telephone number is 703-308-0422. The examiner can normally be reached on 7:30-5:00, Monday-Thursday, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 9/3/04
Anne Marie M Boehler
Primary Examiner
Art Unit 3611

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